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MUGA Pitch Construction

There are 5 categories of MUGA (multi-use games area) and which one you choose depends on which sport is to be the priority. The method of construction will vary according to the chose MUGA surface.

Type 1 and 2 MUGA (Tarmac): Traditionally, one of the more common surfaces, tarmac provides a tough, long-lasting, cheap option though the surface is hard and can result in fall injuries.

Open-graded, porous, frost-resistant macadam is the best draining and is laid on top of free-draining stone. 2 layers are generally advised - a binding base layer for strength and stability and a playing surface layer which can be colour-coated.

If 2 layers are chosen, the base layer should average 40mm compacted depth (not less than 30mm at any one point) and the nominal aggregate size should be 14mm or 20mm. The surface (wearing) course should average 25mm compacted depth (not less than 15mm at any one point) and the nominal aggregate size should be 10mm.

A single layer of macadam tends to be laid on lighter use MUGAs. The tarmac will be open-graded, porous and frost-resistant of 40mm compacted depth and with 10mm aggregate size. Using laser controlled paving machines to install the top layer of stone as well as the macadam makes it possible to achieve the required level of tolerance with just a single tarmac layer.

To meet Sport England criteria, macadam should be produced and laid in accordance with SAPCA's Code of Practice for the Construction and Maintenance of Tennis Courts. The surface should be durable and even and have a uniform texture which does not become too soft in hot weather. As regards porosity, it is expected that water will drain from the surface not more than 15 minutes after the rain has stopped.

The required level tolerances for a macadam surface vary from a maximum deviation of 6mm under a 3m straight edge to a maximum deviation of 15mm under a 3m straight edge depending on whether you are required to conform to British Standards, FIFA, FA or FIH standards. The height difference at joints is usually set at a maximum deviation of 2mm under a 300mm straight edge.

Type 1 MUGA is best suited to tennis and basketball and **Type 2** which has a higher slip resistant surface has netball as a priority sport.

Type 3 and 4 MUGA (Polymeric): Polymeric surfaces are made from rubber granules bonded together with a binder and slip resistant materials. Laid in a continuous layer across the area, and colour coated as required, the shock absorbing surface is porous and durable. Polymeric MUGAs are used for ball rebound sports and as training areas for non-ball sports such as athletics. They are also suitable for wheelchair sports. The main difference between a type 3 and a type 4 MUGA is the thickness of the surface and the slip resistance factor.

Type 3 is a thinner surface with less shock absorbency and higher surface friction which makes it suitable for non-contact sports such as netball and tennis.
Type 4 has a thicker surface providing greater shock absorbency and lower surface friction and is better suited to 5-a-side football, basketball and athletics.

Contact sports can erode the slip resistant factor so it is not recommended to play netball and 5-aside on the same polymeric surface. However, if this cannot be avoided, a thicker surface can be constructed and the final coating can be modified to give as good a slip resistance as possible.

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Type 5 (artificial grass): Those which are required to meet Sport England requirements should be constructed in accordance with SAPCA's Code of Practice for the Construction and Maintenance of Synthetic Turf Sports Pitches for Type 5 MUGAs and STP. The three artificial grass surfaces commonly used for MUGAs are:

- a 40mm carpet with sand and rubber infill, laid onto an in situ shockpad over a dynamic (tarmac) stabilising base layer which sits on a free-draining stone sub-base. Football priority sport.
- a sand-filled (sand infill to just below pile height), low density carpet of 18-23mm pile height, laid onto an in-situ shockpad over a dynamic (tarmac) stabilising base layer which sits on a free-draining stone sub-base. Hockey priority sport.
- a sand-dressed (sand infill to 60-80% of pile height) 18-23mm carpet laid onto an in situ shockpad over a dynamic (tarmac) stabilising base layer which sits on a free-draining stone sub-base. Hockey priority sport.